The Air Line Pilot

OCTOBER, 1958

LIBRARY OF THE

Special Report:

Loss-Of-License Insurance

The Air Line Pilot

OCTOBER, 1958

Vol. 27, No. 10

Entered as Second Class Matter at the Post Office at Chicago, Ill.
Copyright 1958, by Air Line Pilots Association, International.
ED MODES, Editor

AL LEACH, Asst. Editor

• • •

IN THIS ISSUE

Runaway Propellers ..... **Page 3**

Loss-Of-License Insurance: The Facts, Figures And Future ..... **Page 6**

Loss-Of-License Insurance: Beyond The Figures ..... **Page 7**

President's Choice ..... **Page 11**

The ALPA Camera ..... **Page 12**

Flier's Forum ..... **Page 14**

Convention Etiquette ..... **Page 15**

Along The Line ..... **Page 16**

A Case: For Vibration Indicators ..... **Page 19**

News Digest ..... **Page 20**

• • •

Clarence N. Sayen
President
Grant M. LeRoux
First Vice-President
Kay McMurray
Executive Vice-President
R. L. Tuxbury
Secretary
D. J. Smith
Treasurer

REGIONAL VICE PRESIDENTS

C. C. Spencer, Jr. ..... Region I
R. J. Rohan ..... Region II
C. E. Luther ..... Region III
C. L. Anderson ..... Region IV
H. B. Anders ..... Region V

Larry Cates
Legislative Representative

Published Monthly by the Air Line Pilots Association, International, Affiliated with A. F. of L.-C.I.O. Publication offices: 55th Street and Cicero Avenue, Chicago, 38, Illinois.

Advertising appearing in this magazine cannot be construed as being an endorsement by the Air Line Pilots Association or The Air Line Pilot.

Opinions expressed by individual authors in The Air Line Pilot do not necessarily represent official ALPA opinion, unless specifically so stated, and therefore should not be construed as such.

Annual Subscription, $2.50.

66

On the Cover

WHEN flight crews "take-off," or "land," in the new DC-8 jet simulator at the Denver flight training center of United Air Lines, a realistic television runway stretches in front of the electronic training aid as shown on the cover of The Air Line Pilot.

The runway is projected on a screen ahead of the simulator by a closed-circuit TV camera focused on an accurate scale model of an airport and environs.

An entirely new dimension in realism is achieved by providing pilot vision through the closed circuit television. On simulated landings and take-offs, the replica of the airport changes in relation to speed, height and angle at which the simulator is "flown."

The main section of the jet training installation is a cockpit identical in size and shape to the pilot compartment of the new jetliner. The cockpit is equipped with the same controls, instruments and radio aids used on the aircraft. Dials, gauges and instruments —linked to a series of analog computers—react realistically as the pilot "flies," the electronic jet.

The 26-ton training aid, a product of Link Aviation, Inc., is an exact duplicate of the 10-mile-a-minute DC-8 jet planes United will introduce into scheduled service next summer. It is the sixth flight simulator to be installed at the United training center in Denver, Colo., which has the largest concentration of such equipment in the world.

D. R. Petty, United's senior vice-president-flight operations, said:

"With this simulator we can train jet crews long before deliveries begin on the company's order for 40 DC-8s. Training of pilots who serve as flight managers will start immediately.

"Sixty captains, 60 first officers, and a like number of second officers will receive jet simulator training next year.

"The Link simulator is a training aid of great value not only in advancing pilots from piston to turbine-engine planes, but also in acquiring experience on procedures which cannot be satisfactorily duplicated on training planes.

"Each member of our jet crews will be versed in DC-8 operations before going aboard the aircraft for flight training and final check-out.

Writer Vividly Describes Wild Prop Situations and Procedures

By T. J. Slaybaugh
Office of Safety, MATS

"SEE that! You don't have to use but about half rudder and only a slight bit of aileron to correct for loss of an outboard engine. This is a good, stable airplane."

The transition instructor was talking. He was demonstrating the amount of control deflection required to offset the loss of an outboard engine. He said that you would have no control problems, even on takeoff with the most critical engine failing at lift off. He demonstrated that the yaw was easily offset and had set the throttles at 15 inches manifold pressure to simulate the full-feather—no drag situation.

And you were convinced. You had been a little irked at yourself that you had let the heading get off 10 degrees and you edged back on heading. The indicated airspeed, you noted, had dropped gradually, but less than you had expected. After you had lost 20 knots, and had made gentle, get-the-feel turns in both directions, the instructor brought the engine back to cruise power.

A little later, at cruising speed, he *really* convinced you. He eased the throttle back to 15 inches on both engines on one side. You handled the flight controls all the while he eased power on the opposite side up to METO and when you rolled in trim you found that this wonderful airplane would fly on two engines—and the T.O. says you can use METO power indefinitely. Your instructor had really beamed and set there with arms folded as you made a turn in each direction on TWO engines.

A Convincing Demonstration

Yes, this had been a convincing demonstration. And since then, on checks, you had conducted both actual and simulated engine-out flight. And one day, number three had backfired and you had shut it down and made an actual three-engine landing.

No sweat.

You never had a runaway prop—but you know the procedure: Power off, feather, complete the engine out check list. You also know that a runaway is a function of true airspeed and you figure that if the prop won't feather just fly the bird above stall and land at the nearest suitable field. You also know the engine freezing procedures and in the back of your mind you feel you might use them as a last resort, thinking they might reduce drag. The main thing you fear about freezing an engine is that the prop might come off and go through the cabin. (That's why you move the passengers out of the prop line, you recall.)

Some Other Things to Know

But You Should Also Know:

▶ If a propeller runs away and cannot be feathered you may not be able to maintain level flight at any altitude even with maximum power on the other three engines.

▶ That drag of this propeller increases approximately as the square of the velocity and flight must be just above stall speed. The slower you can fly the better.

▶ That if the engine is frozen and the propeller uncouples, the drag will be reduced considerably. However, if the engine is frozen and the propeller does not uncouple *drag will probably be increased.*

▶ If the propeller is an outboard you will probably need full rudder and aileron trim, full or nearly full rudder deflection and full or nearly full aileron deflection to maintain heading—and it is possible that power may even have to be reduced on the opposite side in order to keep the aircraft from turning into the bad engine.

▶ Anything you can do to get the prop into higher pitch

will help tremendously — but chances are you can do nothing.

Results of Test

Information from the propeller and airframe manufacturers and data derived from tests and calculations on the Stratocruiser that ditched in the Pacific last October depict the effects of an uncontrollable prop for this particular circumstance. Drag resulting from this propeller with the blades on the low pitch stops, 21.3 degrees, at 145 knots, 2,000 feet MSL, would be:

Uncoupled windmilling ... 520 lbs.
Coupled windmilling .....1,880 lbs.
Frozen .....2,320 lbs.

The additional power necessary to compensate for the additional drag in each of the above conditions is:

520 lbs. ..... 295 BHP
1,880 lbs. .....1,060 BHP
2,320 lbs. .....1,380 BHP

In a C-54 accident in 1955, the plane crashed shortly after takeoff and 2½ miles from the takeoff runway. The probable cause of this accident was determined to be due to excessively high drag resulting from the improperly indexed propeller blades and inability to feather No. 4. The pilot stated that No. 4 propeller drag felt "insurmountable" and it was impossible to gain or even hold altitude. Maximum power was being used on the other three engines.

A representative of the propeller manufacturer testified that according to engineering data for like conditions the drag would be 570 pounds if the three blades were properly indexed at 24 degrees whereas with two of the blades improperly indexed at 16 degrees, as was the case in this accident, the propeller drag was 1,360 pounds, or about 2.3 times greater. Both crew members stated that the aircraft hit tailfirst, full power on three engines and in a full power stall.

Some Case Histories

Several years ago an Air Force crew flying a B-29 out of a midwestern base had No. 1 propeller go out of control and into full low pitch. The tendency of the aircraft to roll into the dead engine was so great that the plane entered a continuous left turn. The only way that the left wing could be leveled and directional control regained was by cutting power back on No. 3 and 4 engines. Using this system a series of descending spirals was made by the crew in directing their plane back toward the base. Finally, estimating they were in the best attainable position, they pulled off power on the right side and made a diving, semi-controlled approach. Touchdown was made on the overrun, two of the tires blew out and the aircraft continued onto the runway with no further damage.

Last winter, on Guam, a pilot test hopping a C-54 lost control of No. 1 upon unfeathering. The drag was so great, even at an airspeed of approximately 120 knots and at 2,800 RPM, that full trim was rolled in and the descent made with METO power on the three good engines. Upon entry into the traffic pattern it appeared that he might not be able to maintain level flight in this configuration without stalling and he flew a gradually descending pattern. Though he had been flying transports for several years he was so amazed at the drag caused by the uncontrollable outboard propeller in the low pitch condition that he kept checking to ascertain that cowl flaps, or some other parts of the aircraft were not out of order and causing some of the drag. Furthermore, the aircraft was empty and carried only a partial fuel load.

Since there is no way in which these tremendous drag and control forces can be simulated in either a simulator or an aircraft the only emergency training that can be given in advance is to make aircrews aware of this problem in order to cut down panic and to provide them with the best possible

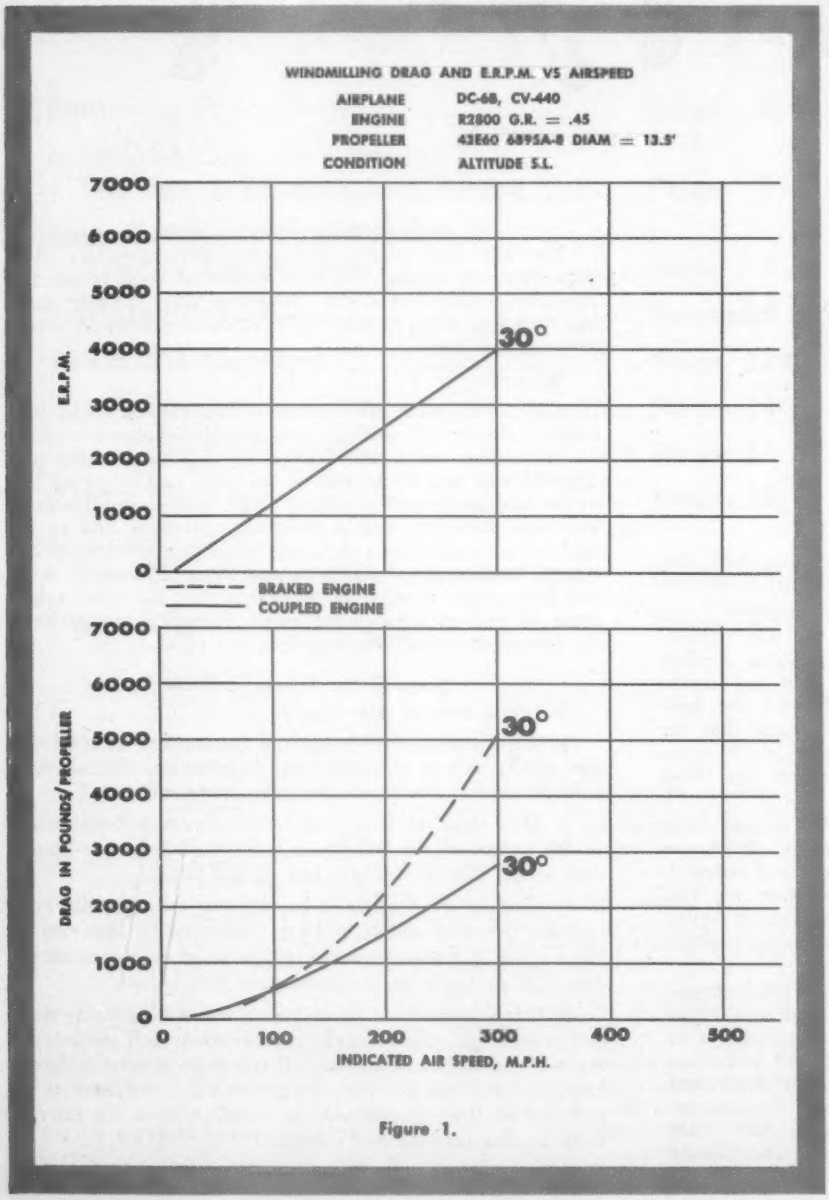


Figure 1.

information as to corrective action.

Panic could easily result from the high pitched whine of the runaway, the near uncontrollable yaw and rolling tendency and the fear that a blade might come through the cabin—especially since a runaway usually occures with no advance warning.

Behind the Problem, a Simple Reason

The reason for the control problem is comparatively simple. For example, equivalent parasite drag expressed in square feet of flat plate area for one of our MATS aircraft is slightly over 27 square feet. The flat plate drag area of a single uncontrollable prop on this aircraft is approximately half this and when you realize that this drag, equal to half the entire parasite drag of the airplane normally, is located well out on a wing, it is easy to understand why the turning moment is so great. Further, as power is added to the remaining engines to offset the drag the tendency to turn into the windmilling propeller is accentuated.

What should the man in the left seat do when a propeller suddenly runs away?

Recommendations

Here is what Hamilton Standard recommends:

"Pull everything back but the feathering button—throttle, RPM, yoke; mixture on the bad engine—the works." They define a windmilling, uncontrollable prop as one that has gone to the low pitch blade angle.

As a general rule the company states that the drag of a frozen propeller is greater than that of a windmilling propeller and freezing is not recommended. Figure I (applied to C-118 prop used by USAF at the normal low pitch blade angle of 30° measured at the 42-inch station) tells an excellent story. These curves illustrate that windmilling engine RPM and drag are functions of air speed. The slower the aircraft can be flown the better (within safe control limits).

From the specialists we learn that if the low angle stop is not effective (this is most likely on props not equipped with mechanical low pitch stops) the blade angle will continue on down until centrifugal twisting, friction and aerodynamic moments are balanced.

In such a case, control of the aircraft may not be possible and freezing should be considered. As the RPM drops due to freezing action and reaches the governing range, try feathering.

It should be noted also that in the course of stopping the propeller through freezing, a peak propeller drag is reached which is greater than either the normal windmilling or fully stopped value.

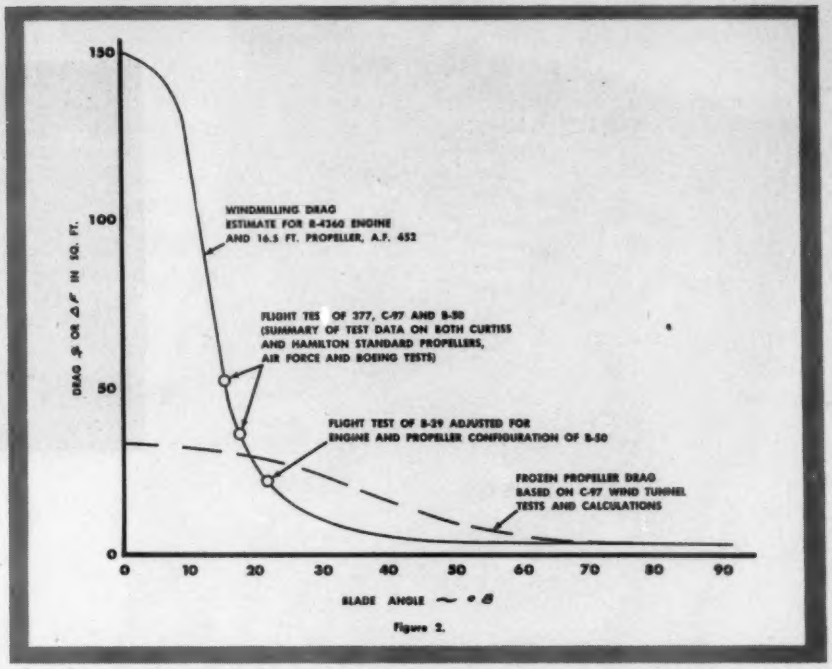


Figure 2.

Data indicates that below a blade angle of about 15 degrees the locked propeller will have less drag than the windmilling, whereas above that value the windmilling propeller will have less drag. The cross over point is a function of propeller geometry and amount of friction and pumping torque required to turn the engine. The most favorable case for the windmilling propeller occurs when the engine becomes uncoupled from the propeller because the propeller does not have to pick up additional energy from the airstream, at the expense of drag, to overcome the friction and pumping of the engine. The only energy required from the airstream, in the uncoupled case, is that required to overcome the aerodynamic resistance of the propeller itself.

A General Rule

As a general rule, propellers equipped with mechanical low pitch stops can be expected to produce less drag (negative thrust) when windmilling than when frozen, while propellers not equipped with mechanical low pitch stops can be expected to produce less drag when frozen. This is because the mechanical low pitch stop is usually above the crossover blade angle.

Approximately two weeks prior to the C-97 incident in which Major Samuel W. Tyson flew 1,000 miles into Hilo, T.H. with two engines out ("T Effect Flight," The Air Line Pilot, March, 1958), Captain Fred L. Irwin, 48th Air Transport Squadron flying a C-124 from Hickam to Travis on a scheduled cargo run, had a malfunction of the No. 1 propeller about three hours after takeoff. He was unable to feather, change blade pitch, or in any way to control the propeller. The drag of this propeller was so great that he was unable to regain level flight until 24,000 pounds of cargo had been jettisoned. At this time he was down to 700 feet with maximum power on the other three engines. Capt. Irwin was able to gradually climb back to 1,000 feet and flew approximately 250 miles back to Hilo at METO power. Drag from the malfunctioning propeller was so great that full aileron and full rudder trim were rolled in and level flight still required nearly full aileron deflection with the yoke. Flight was, at times, on the burble point of stall. Subsequently it was found that the blades had gone to approximately 5 degrees.

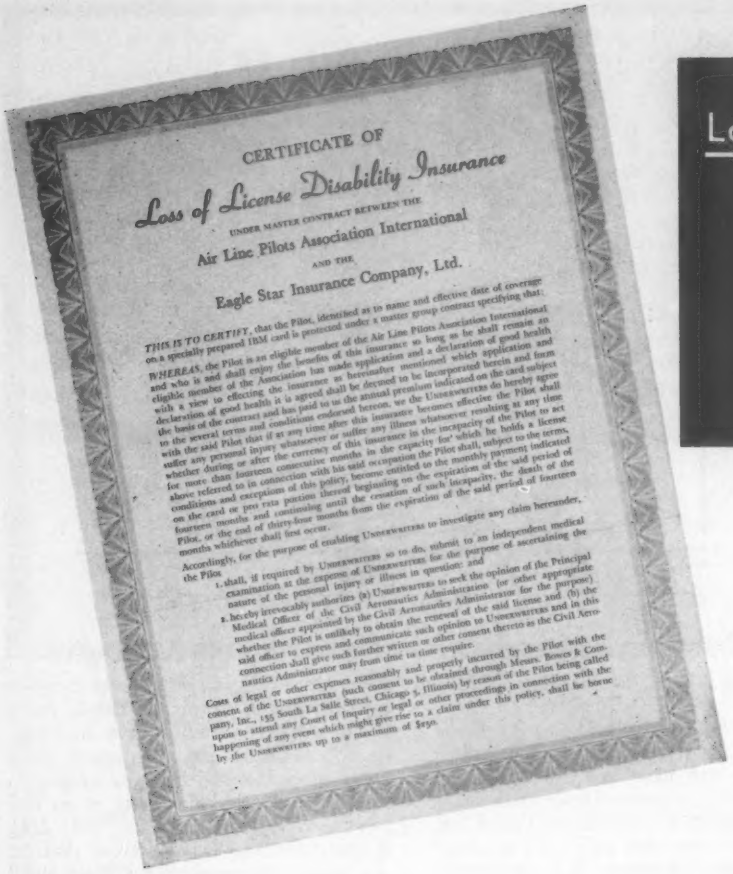
The chart showing the relationship between blade angle and drag (Fig. 2) indicates that drag of a windmilling propeller increases rapidly below about 15 degrees.

Current Considerations

Safety, engineering and operations personnel are giving a hard look at present emergency procedures for handling runaways when the propeller will not feather.

Currently, here are some considerations:

(Continued On Page 25)



CERTIFICATE OF

Loss of License Disability Insurance

UNDER MASTER CONTRACT BETWEEN THE

Air Line Pilots Association International

AND THE

Eagle Star Insurance Company, Ltd.

THIS IS TO CERTIFY, that the Pilot, identified as to name and effective date of coverage on a specialty prepared IBM card is protected under a master group contract specifying that:

WHEREAS, the Pilot is an eligible member of the Air Line Pilots Association International and who is and shall enjoy the benefits of this insurance so long as he shall remain an eligible member of the Association has made application and a declaration of good health with a view to effecting the insurance as hereinafter mentioned which application and declaration of good health it is agreed shall be deemed to be incorporated herein and form the basis of the contract and has paid to us the annual premium indicated on the card subject to the several terms and conditions endorsed hereon, we the UNDERWRITERS do hereby agree with the said Pilot that if at any time after this insurance becomes effective the Pilot shall suffer any personal injury whatsoever or suffer any illness whatsoever resulting at any time whether during or after the currency of this insurance in the incapacity of the Pilot to act for more than fourteen consecutive months in the capacity for which he holds a license above referred to in connection with his said occupation the Pilot shall, subject to the terms, conditions and exceptions of this policy, become entitled to the monthly payment indicated on the card or pro rata portion thereof beginning on the expiration of the said period of fourteen months and continuing until the cessation of such incapacity, the death of the Pilot, or the end of thirty-four months from the expiration of the said period of fourteen months whichever shall first occur.

Accordingly, for the purpose of enabling UNDERWRITERS so to do, submit to an independent medical examination at the expense of UNDERWRITERS for the purpose of ascertaining the nature of the personal injury or illness in question; and

2. hereby irrevocably authorizes (a) UNDERWRITERS to seek the opinion of the Principal Medical Officer of the Civil Aeronautics Administration (or other appropriate medical officer appointed by the Civil Aeronautics Administrator for the purpose) whether the Pilot is entitled to obtain the renewal of the said license and (b) the said officer to express and communicate such opinion to UNDERWRITERS and in this connection shall give such further written or other consent thereto as the Civil Aeronautics Administrator may from time to time require.

Costs of legal or other expenses reasonably and properly incurred by the Pilot with the consent of the UNDERWRITERS (such consent to be obtained through Messrs. Bowes & Company, Inc., 155 South La Salle Street, Chicago 3, Illinois) by reason of the Pilot being called upon to attend any Court of Inquiry or legal or other proceedings in connection with the happening of any event which might give rise to a claim under this policy, shall be borne by the UNDERWRITERS up to a maximum of $250.

Loss-Of-License Insurance: The Facts, Figures And Future

By

Dana F. Wilson

Vice President, Johnston and Company, Inc.

THE ALPA "Loss of License," plan is unique in the world. No other disability plan gives as broad protection to pilots at anywhere near the price ALPA pilots are paying.

There are reasons for this. The Association sought a plan of benefits that was broader than anything that existed at the time. They looked at proposals over a long period of time before they found what they wanted. There were other "Loss of License," plans available then as there are today. But the contracts contained too many restrictions and the price was too high for what your committees then considered justifiable.

As many pilots know, most *regular* accident and health—loss of income insurance—is not available to pilots insofar as its applies to your job for the reason that pilots are too vulnerable to being disabled from *"pilot,"* occupation. Being disabled from most occupations over any period of time requires quite a serious illness. This is not necessarily so with pilots. Therefore, an insurance carrier had to be found who would take the unusual risk of insuring pilots against disability from *"their"* occupation. A policy requirement was that the pilot could work in any other occupation and still receive benefits under this contract.

Natural Deterioration Item

In addition, your representatives were opposed to certain restrictions which most contracts then available had. One restriction which almost all other "Loss of License," contracts still have today is that concerning loss due to "natural deterioration," over age 50. The definition of "natural deterioration," in the Lloyd's contracts is: ". . . a medical condition of the Insured's body not attributable to any detectable clinical sign or symptom, laboratory findings, or injury." Through your Association's insistence, they were able to have this restriction removed.

I was talking with an underwriter of one of the large American companies about "Loss of License," recently, and

(Continued on Page 9)

ABOUT THE AUTHOR

Mr. Wilson is the Association's Loss of License Broker. He is a graduate of the University of Chicago School of Business. After being with the Equitable Life Assurance Society and the Studebaker Corporation, he spent nine years as a group insurance specialist with the largest insurance brokers in the U.S.A., dealing with all different companies on all kinds of group insurance contracts. He is completely familiar with the special insurance problems of the air line pilots as represented by this Association and, by virtue of his past experience and great personal interest in our problems, is well qualified to act as our "Loss of License," insurance broker.

Loss-Of-License Insurance:

Beyond The Figures, The Human Side

By

Don J. Smith

Treasurer of ALPA

THE accompanying article on the Association's Loss of License Insurance Program by Mr. Dana Wilson on Page 4, will give all members of the Association a better understanding of our Loss of License Insurance program, its developments, its aims, and its accomplishments.

In it, Mr. Wilson competently reviews the concepts and ideas upon which the program was founded and provides a complete actuarial review of costs and claim experiences to date. In addition, we are afforded a look at the future in respect to the plan and the possibilities which exist for further enhancement of the plan.

That is one side of the plan: the financial realities and the fiscal facts of it. However, as an air line pilot, to me there appears another significant story connected with the program: The human side, which lies beyond the facts and figures.

Daily Contact Aids In Appraisal

Daily contact with the business routine of the program has given me an opportunity to see the good that the Loss of License program can do for all of us on an individual level.

Generally, we are inclined to look at the Association's benefit programs from a more or less selfish viewpoint. We do not participate in them out of idealism, but to protect our own individual interests which are paramount to us. In other words, being human, we would like to participate *if* the benefits obtained come directly back to us.

Perhaps the Association program is a paradox inasmuch as it is based on a group deal for the purpose of direct benefit to individuals, the idea being that only through collective effort can the greatest benefits be made available to the individual.

Can Be Evaluated Two Ways

How do you evaluate in human terms the real value of the program and the manner in which the individual benefits? There are really two ways.

Mr. Wilson has outlined one, the dollars and cents way in which individuals benefit when they are disabled.

In looking through the files of our Loss of License program recently, I ran across a letter addressed to President Sayen from Robert C. Bower which further assesses such benefits in terms of the individual. This letter was written in 1955, and Mr. Bower, who was the first member of the Loss of License program to receive disability benefits, had

ABOUT THE AUTHOR

As Association Treasurer, D. J. Smith is, of course, an active air line pilot. He has been closely associated with ALPA benefit programs in many areas. As a member of the Association's Insurance Study Committee, he helped develop Loss-of-License coverage. As treasurer of the Association, he manages the business aspects of the plan. He has been extremely active for many years in the TWA Mutual Aid Plan. He is a member of all of the Association's benefit plans. This combination of factors — close connection with the administration of the Loss-of-License program plus his understanding of the pilot viewpoint and his own participation as a member of the plan — eminently qualifies him to evaluate the program as an air line pilot in terms of what it means to present, past and future participants and benefactors of the program.

this to say about it and the Association's other benefit programs:

"I would like to take this opportunity to thank you and all concerned regarding approval of my Loss of License claim — I know this approval means a lot to all policy holders in ALPA and believe me, it means a lot to me.

I have learned by this experience that you can never tell when accident or disease can strike you down. I was always a member of American Airlines Mutual Aid plan but just never got around to joining ALPA Mutual Aid plan before this hit me. Needless to say, I have been very, very sorry about this.

Also due to being laid up, I am unable to join ALPA's new Group Life Plan. I would like to say that I think the whole insurance set-up being developed by ALPA is wonderful and I heartily believe every member should take advantage of it."

Mr. Sayen's letter in reply thanked Mr. Bower and went on to say:

"Since you are the first Loss of License claimant to begin receiving disability payments, the occasion has special significance for us. It marks a milestone in financial security for our members."

Don't Delay Filing Loss Of License Claim

It is imperative that claimants under Loss of License give notice of disability within the time limits of the policy. Failure to do so can be costly. At the very least, it can impose difficulties and result in loss of time in obtaining approval of the claim. At the worst, it can result in denial of the claim. The time limit within which a Loss of License claim must be filed is six months from the onset of the disability (i.e., the last date the pilot flew). There is no red tape involved in giving such notice. It is given directly to the Association, which in turn furnishes a preliminary Notice of Claim, bearing the underwriter's name and address. The claimant has only to fill out and mail this. This sets claim-processing machinery in motion. This takes only a few moments of time, but failure to take this time can cost up to $17,000 in loss of maximum benefits should the claim be denied because of late filing. Play safe by filing notice of your disability and making it a matter of record as soon as possible after it occurs.

Since Mr. Bower's claim, of course, there have been many more claims which have been paid and many more letters of a similar vein have been received. Those who have been disabled and become claimants under the Association's Loss of License program are very intimately aware of its value and the benefit to them.

How Everyone Benefits

But what of those who never became disabled?

As air line pilots, we can never escape nor ignore the fact that we put our occupational futures "on the block," so to speak, at least twice a year from a medical standpoint. Consequently, in a different perspective, every member of the program, whether they ever collect one cent, benefits more indirectly but to a very great degree. Their benefit: peace of mind in the knowledge that help, understanding, and money payment, if necessary is available as the result of the group effort. This is by no means a vague benefit. It is what we buy when we purchase life insurance to take care of our families, when we purchase endowments or participate in retirement programs to protect our future, when we purchase hospitalization insurance to tide us over an illness, or even automobile insurance against a possible accident.

As Mr. Wilson has pointed out, the Association's Loss of License program has made excellent progress. Other Association benefit programs have also continued to grow.

Full Participation Is Aim

On the other hand, despite the gratifying record to date, these programs will never reach their full potential until full membership participation is achieved.

This will require recognition on the part of all of the membership that the personal benefit each of us expects to gain from the programs must be moderated by the realization they will flow to us only as a mutual product of our consideration of other members' interest as well as our own.

Idealistic thinking, to be sure! But the Association itself is based upon and exists only because of this type of idealism. We have only to look around elsewhere in our economy and civilization to see that such idealism — individual benefit through mutual group effort — is a workable reality capable of producing great and beneficial results.

As I look back on the days spent by the original Insurance Study Committee in thinking wishing and working toward the goal of developing a Loss of License insurance program for the membership that would fit the needs of the Association, several conclusions are inescapable.

Some Conclusions

If in the beginning, we had not had an ideal in mind and the willingness to work toward it, even at the expense of personal sacrifice in some instances, we would never had had the Loss of License insurance protection that we enjoy today. The direct good that the Loss of License program has already done for many disabled members and will do for others in the future as well as the peace of mind for all participants who someday may fall in the latter category, would not have existed.

To be sure our ideal is not personal. Nor will it ever be. But we can continue to work together to improve and apply this ideal to our insurance programs and everything else in this Association. They will consequently continue, as time goes by, to grow better.

In conclusion, I realize that this article has, in effect, advertised the Association's benefit programs to you. The intent and purpose has not been so much to advertise them as to leave you with this thought: The Loss of License and other Association benefit programs have come about only through the joint efforts of the majority of our members and will grow and prosper groupwise, with consequent realization of broader individual benefits, only in proportion to the extent the membership participates in and uses them.

"I couldn't bear to let our company's founder see these latest concessions we had to make to ALPA!"

. . . . . ALPA Loss-Of-License Claim Experience To Date Is Analyzed

(Continued From Page 6)

he pointed out that his company (which had bid on the ALPA "Loss of License" plan at one time) was opposed to covering "natural deterioration." I pointed out that this had not been a real problem thus far (thinking of the British definition).

He said:

"You mean you haven't had heart attacks and eye problems and hearing problems?"

You have a fair idea from this remark as to what his company would have excluded in their definition of "natural deterioration."

Another restriction which some contracts under consideration had was mental illness. This, too, was eliminated and quite a number of pilots are presently receiving benefits who might otherwise have been excluded.

This is not to say that the above-mentioned restrictions or exclusions do not make sense in other contracts. It was only because of your buying or bargaining power that your Association was able to accomplish these things. Because of the spread of risk, your large number of pilots can offer, these types of claims can be covered—particularly if, based on experience, you are willing to have your premiums increased to continue to insure these risks.

Level Premium

Another requirement was that the "Loss of License," plan be available at a level premium at all ages up to age 60. Even where ordinary occupations are involved, accident and health premiums are stepped up at the higher ages, and, frequently, there are restrictions in amounts of benefit as the age increases. Here again ALPA was looking for the almost impossible. The age requirement was met as specified. As will be seen later, this broad coverage all the way up to age 60 could well create a problem as the number of pilots in the over-fifty age group increases.

In addition to seeking the broadest contract features as outlined above, your Association naturally sought the lowest price. The original price of $12.50 per pilot which also was the premium for the second year was, as experience has shown, too low. The third year, the premium was $22.50, and starting with the fourth year, a three-year, non-cancellable contract was agreed to at the present premium of $49.00. In addition, the Association charges $1.00 per year to defray their costs of handling.

Skepticism is the characteristic of most intelligent groups, and the pilots because of the nature of their work seem to be unusually endowed with it. When the contract was first negotiated, there were many who doubted that this contract could be continued at the initial price. The doubts as to adequacy of premium were correct, but the important fact is that the Underwriters have honored every justifiable claim. True, there have been adjustments in premiums, but only after the need for increased premiums was indisputably established. The Association has therefore remained in a strong bargaining position on rates rather than being placed in a position of having to negotiate a reduction in a rate which was too high originally.

Claim Experience

Here is the record. As of July 31, 1958, there were 78 pilots who had received benefits under this contract since inception on November 1, 1953. Of this total, there are three pilots who have run out their full 34-month benefit of $17,000. There are 62 who are currently receiving $500 per month. There are 13 who have received partial payments and whose benefits were terminated because of return to flying, death or lump-sum settlements. The lump-sum settlements number four.

The lump-sum settlements were the result of disputed cases. "Loss of License," as well as every other contract is subject to interpretation. Each of the disputed cases involved some difficult problem such as cause of disability that might have existed prior to date of application. Other types of problems which can cause disputes are these:

Is the pilot's problem really a bona fide disability?

For instance, if a pilot is discharged for holding strong convictions of one kind or another, such as religion, etc., can this be classified as a disability?

Then there are cases where discharge by the air line involved the competence of the pilot, but claim is being made under this contract as a physical problem. The examples cited do not refer to the specific lump-sum settlements but they are typical of things that can arise.

In most cases, there is no question of qualification for disability benefits. However, as with all other phenomena where numbers of things are involved, the law of averages applies, and all cases will not be either black or white. We think that if the pilots could know all of the circumstances of each case, they would realize how extremely fair the Underwriters have been in the handling of claims.

Half Million Paid

The total benefits paid out to pilots through July 31, 1958, has been $638,-564.51. In addition, the reserves set up to pay the balance of 34 month benefit to pilots currently receiving benefits are $541,182.32. In addition, as of July 31, 1958, there are 31 pilots who have filed claims and who currently have not completed the 14-month waiting period. If all of these claims were to materialize completely so that a $17,-000 benefit was ultimately paid to each pilot, the total reserve on this group is $493,000.00.

To sum up, the total in paid claims or reserve in the four and three-quarter years is $1,667,746.83. The total premiums paid covering this same period of time is $1,217,969.94. Obviously, the pilots have had a very good buy.

There have been six claims declined in the four and three-quarters years the contract has been in existence. Four of these cases did not qualify as disabilities under the contract, and two declinations involved what the adjusters considered to be pre-existing conditions about which the pilot had knowledge and had failed to disclose at the time of application. Nobody likes to see any claim disputed, but it is unrealistic to hope that a contract of this kind can be administered through the years without a few controversial cases. The various Mutual Aid plans have the same problems. They cannot be avoided in connection with this contract or any other "Loss of License," contract.

Possible Plan Improvements

A number of changes in the Plan are feasable if desired by the membership and if they are willing to pay for it.

You understand, of course, that the premium for a particular benefit change is a matter of negotiation at the time the benefit change is requested. There are no predetermined rate schedules for "Loss of License," benefits. We can only suggest tendencies, therefore, in discussing cost of additional contract benefits.

A feature which might be considered is a lump sum settlement, either immediately or after a certain waiting period, to a pilot whose disability was

Future Outlook Of Association Loss-Of-License Coverage . . . . . .

ALPA LOSS-OF-LICENSE Committee members in 1953 working on plans for insurance. Many proposals were studied before a workable plan equitable to all parties was reached.

unquestionably a prominent one as far as flying is concerned. Pilots who would benefit from such a feature from such a feature would be those who had the loss of a limb or an eye, or possibly a heart attack. Straight lump-sum features, however, will tend to increase the costs because returns to work and deaths do not have any mitigating effect as they do under the present contract.

Another thing that can be done at relatively small increase in cost would be to pay *double* the monthly benefit if the disability results from an accident connected with the aircraft while on duty. In the four and three-quarter year that the "Loss of License," contract has been in effect, there are three pilots presently receiving benefits who were disabled due to plane accident in line of duty, and there are four pilots in the waiting period, making a total of seven who would have received the so-called double indemnity benefits. At $17,000 apiece addition, this would have theoretically added $119,000 to the claim cost in four and three-quarters years, and you, therefore, have a fair idea of how this feature could affect the cost to each pilot.

The reason that your Association has moved cautiously in making changes in the Plan is that the costs of the Plan as presently written have not stabilized. They do not think it advisable, under these circumstances, to add other features which will tend to increase the cost.

Future Cost Estimate

An actuarial study has been made of the ALPA "Loss of License," plan, using the first four years of experience under this contract. While this is too short a period of time to be absolutely certain of the conclusions, it is the best set of data available. It was found that accident and health tables applying to other occupations were not reliable at all (for reasons mentioned previously) in relation to the ALPA "Loss of License," problem.

The cost of "Loss of License," and all other disability income insurance for that matter is directly related to the age problem. The older a person gets, the more likely he is to have a health problem, and this problem is magnified in the pilot occupation because of the high physical standard requirements.

The significance of any disability as it applies to ALPA pilots is largely dependent, therefore, on the accuracy of the estimate of the future age pattern of the entire group of pilots.

As of 1957, there were about six hundred active pilots who were 49 years of age or over in ALPA. However, in 1963, according to one projection, the number 49 and over is estimated to be around 1,500, and in 1969, the number in this age group is estimated to be approximately 4,100.

Even granting some degree of error in the above projections, you can see how this large increase in the 49 to 60 age group can affect the cost when you realize that the claim expectancy in the middle forties is around 5 per 1,000 whereas the claim expectancy in the middle fifties is around 20 per 1,000.

It should be borne in mind that predictions of this kind are hazardous. There are many unknowns. The effects of the jet age, a change in physical standards requirements, new inventions bringing about changes in air line transportation are all factors which make long-range forecasts difficult. In addition, the relatively short experience on your own "Loss of License," contract may not truly reflect the claim expectancy that may be experienced in the future.

Profit for Risk

Another thing that should be pointed out is that when an insurance underwriter takes a risk, there must be a reasonable opportunity for profit for undertaking the risk. As much as each of us as an individual insurance buyer likes to think he is ahead of the insurance carrier, it nevertheless must be realized that in the long run, the insurance premium must exceed the losses to such a degree that it remains attractive to the underwriter to assume the risk.

Any comparison with regular accident and health insurance even at this ultimate prediction in premium increase will show what a great buy the ALPA plan is for its participants.

Other "Loss of License," group plans around the world and held by pilot groups affiliated with ALPA through IFALPA are generally being placed at a cost of approximately $7.50 per $1,000.00 per year. (ALPA'S $17,000.00 maximum benefit would cost $127.50 per year at this rate.)

It is possible for individual pilots to buy "Loss of License," insurance in the London market under certain circumstances, and the current rate is approximately $8.75 per $1,000 of maximum benefit. At this rate, a $17,000 benefit would cost $148.75 per year.

Another comparison with individual policies available to people in non-pilot occupations might be of interest to you. This is an individual accident and health policy available through one of America's largest and oldest Eastern insurance companies. This policy is only available to men in the non-hazardous occupations and *not* available *at all* to pilots. Here are the annual

(Continued on Page 26)

Demands On Time Of Presidents Since George Washington Have Caused Utilization Of Fastest Means Of Transportation Available From Horse To Intercontinental Jet Airliner

By Wallace Umphrey
(Writer, Boeing Magazine)

IMPORTANCE of transportation was emphasized recently by an announcement that President Eisenhower had approved the purchase of three Boeing 707-120 jet transports for use by the President and other high government officials. Boeing 707s were selected, according to News Secretary James C. Hagerty, because they are the first U. S. jet transports "with substantial flying experience."

Every president has used the best means of transportation available to him. In the course of his government life, time spent in traveling is wasted time. His aim has been to get where he has to go as safely and rapidly as possible.

From colonial times, every president has been worried about getting people and things from one part of the country to another. In 1783, six years before his inauguration, George Washington ascended the Mohawk River by boat and crossed overland by horseback to the headwaters of the Susquehanna to study the transportation problem. "I could not help but be struck," he wrote, "with the immense importance of it . . ."

Until the first transcontinental telegraph in 1861, and the first transcontinental railroad in 1869, poor transportation slowed westward expansion. For many years the Eastern Seaboard was cut off from the vast wilderness to the west. It worried George Washington that, for the lack of transportation, the Ohio Valley might be lost to Spain.

Extra Horse

President-elect Washington, in traveling from Mt. Vernon to New York for his inauguration, covered his bets. His favorite saddle horse was trailed along behind the coach in which he rode, and from time to time during the journey he exchanged his seat in the coach for the relative comfort of the saddle.

All early presidents of the United States used the National Road—the superhighway of the day—in going on executive business to and from the capitol. The National Road ran from Cumberland, Maryland, to Wheeling, West Virginia, and soon was extended to the Mississippi Valley. By the fastest coach, the trip from Cumberland to Wheel-

(Continued On Page 13)

President's Choice

The ALPA Camera

Model Plane Champs

THE AIR LINE PILOTS ASSOCIATION assisted in the staging of the 27th National Model Airplane Championships, sponsored by the Academy of Model Aeronautics, this year at the Naval Air Station, Glenview, Ill.

At the awards ceremony, a photographer made these pictures of winners of ALPA sponsored contest winners and their trophies.

Left is Capt. C. G. McCullough of Delta Airlines, a model plane enthusiast himself, who represented ALPA at the national show. With him are winners of the Junior Class A Speed competition in which the youngsters flew planes up to 121.74 miles per hour.

At top are winners of the Open Prototype Speed events—top speed 119.24 mph. Lower left are the Indoor Cabin model award winners, and below the Junior Prototype Speed event winners, in which 110.05 mph., was tops.

George Washington Was Horseborne

(Continued From Page 11)

ing a distance of 130 miles, took 24 hours.

Private companies operated the stage lines. These stage companies bore such picturesque names as the Good Intent Line, the Shake Gut Line and the June Bug Line. The first two names require no comment and the last came from the prediction that the new stage line wouldn't last until June bugs appeared. As a matter of record, it did.

Whenever the president traveled, it was a big thing for the stage line which he honored with his patronage. The stage line either built a new coach or refitted the best one in its possession. Such a vehicle was highly decorated and was given such names as "Old Tippecanoe."

"Old Hickory," Balks

President-elect Andrew Jackson, however, seemed to worry more than the rest about propriety. After a coach was built for him, he refused to ride in it to his inauguration in 1829 on the basis that he paid his own way and never accepted gifts.

In 1849, when Zachary Taylor, a national hero after the Mexican War, went eastward for his inauguration, he was met by a fine new coach at the Ohio River. The road was a glare of ice. A southerner, President-elect Taylor had never seen anything like it. "His iron-gray head was outside the window as much as inside," was the way one historian put it. Everybody was worried except the president-elect.

High government officials were carried free by the stage lines. One stage line owner came up with a secret signature which he scrawled in chalk on the official's hat. The drivers came to say: "The old man has chalked his hat."

Railroads changed the way in which presidents traveled. President-elect Abraham Lincoln, for example, rode from Springfield, Illinois, to Washington by train. Before departing, Lincoln spoke to the townspeople from the rear platform. Frequent stops were made so that cheering voters could hear what he had to say.

In his departing speech Lincoln said in part: "I go to assume a task more difficult than that which devolved on George Washington. With these words I must leave you, for how long I know not . . ."

These words were ironic as well as prophetic. Lincoln was never to dwell again in Springfield. But after his assassination, his body was returned by rail to his home town.

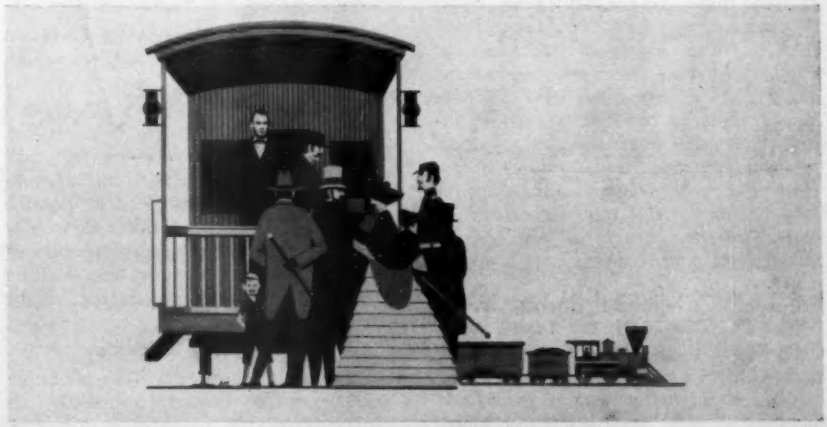
Coach Too Big

Ironic was the fact that Lincoln's death gave George Pullman his start. In 1864, Pullman built his famous "Pioneer" sleeping car. Railroad men scoffed at his effort, complaining that the car was too wide to enter station platforms and too high to go under bridges. Pullman snapped testily: "Then alter the platforms and bridges." The railroad men laughed openly at such an idea.

The new-type sleeping car might have rusted in the yard—except for Lincoln's death. George Pullman's "Pioneer" was commandeered and station platforms and bridges were altered so that Lincoln's body could be carried in state to Springfield. Eventually, platforms and bridges all over the country were rebuilt to accommodate the sleeping car.

From the standpoint of American history, the automobile and airplane are of recent vintage. It's hard to realize now that Theodore Roosevelt was the first president to ride in a motor car. Theodore Roosevelt, it would seem, was our most venturesome president. He was also the first to fly in an airplane—but this was not until 1910 when he was already one year out of office.

Until very recent times, when the world began to shrink so rapidly, presidents stayed at home. Again, Theodore Roosevelt was the first to leave the United States while still in office—a trip to Latin America during the building of the Panama Canal. Woodrow Wilson was the first to travel to



Train Platform Speeches By Lincoln

Europe, for the peace conference following World War I. Both traveled by boat.

For the greater share of the twentieth century, the automobile has been commonplace. All recent presidents have used it extensively. It was not until the time of Franklin D. Roosevelt that the airplane became completely accepted. Both President Truman and President Eisenhower have had special airplanes at their disposal.

Intercontinental Travel

The order of three Boeing 707s by the White House presages a new era in international statesmanship. Top government officials will be able to commute to any part of the world in a few hours. The three 707s which will be delivered in the spring of 1959 will be assigned to Military Air Transport Service special air mission section.

Today, our presidents can travel with speed, safety and comfort. Our early presidents never had it so good. Still, some of the flavor and drama is gone.

Take President Martin Van Buren, for example, who in 1844 made an extended political tour through the Middle West in hope of securing his reelection. In hostile Indiana his coach driver met secretly with his political opponents. What transpired is not in the records. No sooner had they left Indianapolis, however, than the coach driver ran off the road, upset the coach and pitched Van Buren into a deep mudhole. He lost the election.

Andrew Jackson Paid His Way

Teddy Roosevelt Utilized Horseless Carriage

Flier's Forum

Consider: The Flight Recorder

(Editor's Note: The contributions to this Department are given the widest leeway consistent with good taste. Consequently, the opinions expressed here are those of the author and not necessarily those of the Air Line Pilots Association or The Air Line Pilot. ALPA policy on flight recorders is: That ALPA favors an instrument which should provide an indestructible record showing the aircraft history insofar as gust loads and mechanical malfunctions are concerned. Such recorders may be helpful in avoiding future accidents that may be caused by metal fatigue, structural failures, or mechanical malfunctions.)

By F/O Michael Barna, Jr.
AAL Council 31, Los Angeles

During the preceding dynamic months of aviation progress, many new airplanes and many new projects have been spotlighted. Similarly many, many new regulations have been adopted governing all aspects of aviation.

Hidden among the changes during the past year is one such regulation which concerns a less heralded but no less important new item called the flight recorder.

Civil Air Regulations amendment 40-6 adds a new Sec. 40.208 which reads as follows:

"After July 15, 1958, a Flight Recorder which records time, air speed, altitude, vertical acceleration and heading shall be installed on all airplanes of more than 12,500 pounds maximum certificated take-off weight which are certificated for operations above 25,000 feet altitude, and shall be operated continuously during flight time."

Accidents—Incidents

The flight recorder will be a unique and expensive device supposedly intended primarily for accident investigation purposes and for incident evaluation. Rest assured it will transcribe data on a recording medium most accurately and at intervals of no less than one second.

Whether its use will also provide recorded intelligence for inceasing operational safety or other less obvious reasons remains to be seen. Nevertheless, segments of general aviation who have strongly supported the drive for recorders are the most remote from air line operation, for whom its use is primarily intended.

Twice previously the CAB has attempted to require the use of airborne flight recorders. Presumably lack of a suitably proven device and instrument reliability abated both prior attempts. Now, however, the gadget is here, evidently to stay.

In detail, the recording medium will record time lapse at intervals of not more than one minute. Pressure altitude from 1,000 to 50,000 feet at in-

tervals of not more than one second with a tolerance of roughly 100 to 560 feet below 25,000 feet and 450 to 800 feet above 25,000 feet to 50,000 feet.

Vertical acceleration, of which a pilot has no cockpit indication of +6 to —39 recorded at intervals of not more than 1/10 of one second or at intervals of one second in which peak acceleration are recorded.

Gust load factors are thus made a permanent record. Air speed of from 100 to 450 knots IAS at one second intervals with a tolerance of #10 to 12 knots. Heading through 360° of azimuth and at intervals of not less than one second with a #2° tolerance.

Expensive Item

It is evident from the above that this device is far removed from the pilot's old scratch pad and a lot more expensive. So much so that it has been estimated that it will cost the scheduled air lines alone, a million dollars during a five-year period to purchase, maintain, and spare part the unit. This is a sizable investment considering current air line outlay for new equipment, etc.

The value of a flight recorder outside of its use in experimental or provisional type certificated airplanes brings into force two sharply dissenting schools of thought. You either like it or you don't!

Those in favor argue that much can be gained from accident studies and investigations eliminating much of the piecemeal suppositions, conjectures and personal opinions as formulated after the affair. In addition, units are supposedly available that will do the job reliably and should help in improving operational procedures and future airworthiness standards.

Exactly how this will be done is a bit vague and obscure. Whether the information will be publicly disseminated from the recording after an accident is not clear. How it will provide the air lines a return on such a sizable investment is also hazy. However, it is generally conceded that anything to promote safety is worth its salt.

Question Reliability

Those on the negative side question the reliability of current units available and their extremely high cost and temperamental upkeep. Moreover they are of the opinion that the advantages derived from their use in accident investigation is highly exaggerated and at best of little assistance in any but a small percentage of accidents.

Still others point out the two previous CAB failures to get a recorder aboard air line aircraft, reflecting the past instrument inadequacies as still existing and the doubt surrounding the previous proposals was evidently well founded.

Whether there exist other reasons pro and con no one, including the flight crews whom the Dick Tracy unit will be shadowing closely seem ready to go on record as saying.

One thing remains certain: Unless amendment 40-6 is rescinded flight recorders will soon be with us for better or for worse, unless Uncle Sam do us part!

Be Prepared:

Convention Check List

With ALPA's 15th Biennial Convention (November 3) fast approaching, the following tips on Convention etiquette and know-how appear apropos and are reprinted for whatever value they may be to the Convention delegates:

The great American convention of "having a convention," is a grand and wondrous thing. Anybody who has ever been to a convention knows what I'm talking about. Daily living is never the same before or after as it is "during." There's a ritual about "keeping the schedule," definite rules for departing therefrom, and the endless words of all the endless speeches would—if laid end to end and then covered with three feet of earth—leave this world a better place.

Speeches: We need a vaccine for speeches more than we do a cure for the common cold. So many nice persons, when confronted by a captive audience, begin to suffer from running off at the mouth. If you could only prescribe aspirin and let him lie down in a quiet room while the audience tiptoes out. But, no, the plague continues through convention after convention, and so do the speeches . . .

Let me offer my "Rules For Speech Endurance," or "Sitting In Place Exercises For The Captive Audience":

- *Take off shoes and rub feet on carpet. Friction sets carpet afire and when you run for the extinguisher, keep on going.*
- *Make notes. Speaker is flattered. You compile Christmas card, grocery, thing-to-do-lists.*
- *Rest elbow on table and hold face in hand. Keeps forehead from cracking on table edge when head nods.*
- *Chain-smoke a screen for your neighbors to use when escaping. You can't leave, but they'll do the same for you next session.*
- *Drink sips of water. Enough sips and you won't have to make up an excuse to leave the room.*
- *Figure out your expense account. It keeps you awake nights, it ought to keep you awake days.*
- *Classify contents of handbag (if woman), contents of pockets (if man). You find more interesting things that way.*
- *Squirm, or scratch. Both, discreetly.*
- *Applaud regularly, but this is dangerous since it may encourage the speaker to ad lib which is murder.*
- *Finger jewelry, particularly necklaces, winding strand around finger until you start to choke. This wakes you up, but quick.*
- *Make a list of all the ways the rest of the captives are using to keep themselves awake and upright.*

These patents are not applied for and you are welcome to use them without charge. In fact, if you know of any better ways to stay awake during speeches, let me know—I have plenty more speeches to go . . .

Marj Heyduck
Dayton (Ohio) News

Along the Line . . .

Here and There With Air Line Pilots at Work and Play

Interest In Distance Flights Leads To Record

CAPTAIN Pat Boling in Beech Bonanza he flew 7,000 miles.

MARION LIVINGSTON (Pat) BOLING, who piloted the Beechcraft Bonanza on the world record 7,000-mile solo, non-stop, non-refueling flight from Manila to Pendleton, Ore., July 13-Aug. 1, is a 43-year-old professional United Air Lines Captain with 20 years of military and commercial flying experience.

The duration of Pat's flight was 45 hours, 43 minutes. He covered an actual distance of 7,000 statute miles based on position plots and the Great Circle distance for official record was 6,856.32 statute miles.

Capt. Boling took off in the single engine personal plane with a fuel load of 402 gallons, and consumed 391 gallons en route, for an average of 8.5 gallons per hour. His gross takeoff weight was 4,964 pounds.

(His flight broke the record held by the late Bill Odom, who in 1949, flew a Great Circle route from Hawaii to Teterboro, N. J., a distance of 5,273 miles in 36 hours, 2 minutes.)

Ice Trouble

Pat reported all operations of his plane normal except for icing conditions near Queen Charlotte Islands, B. C., Canada. Ice also caused some fuel loss due to siphoning through a vent installed for extra tanks in cabin and larger power requirements during icing conditions.

Asked about his reasons for wanting to make the flight, Boling explained: "The original motivation must go back to Lindbergh, and all those great pilots of that era. I have always admired them as the real 'movers' of aviation. The aerobats and the stunters have never gotten a second glance from me —maybe it was because I made myself sick in my first stunt ride.

"Then I was in Honolulu back in March of 1949, on the night Bill Odom took off, and was impressed by the way the little Beechcraft grabbed for the sky even though very heavily loaded. And I was also impressed by the relative ease with which he shattered all records, even though the weather map was not particularly favorable.

"Then I started flying the Tokyo run . . . and I began making plans, swinging strings over my son's globe and thinking just what could be done. Early last November I wrote Beechcraft's Jack Gaty, asking a few technical questions. I had the route, the dates, the meterology, the mapping and the Bonanza modifications pretty well in mind. Beechcraft was interested. The result: this long-rang flight.

Born In Oklahoma

Born in Eddy, Okla., Sept. 7, 1914 —and a Californian since 1922—Mar-

(Continued On Page 18)

Old Pros

MORE THAN 175 years of piloting experience is represented by these veteran air line captains.

Upper left are Northeast Airlines' two senior pilots, Captains Milton H. Anderson and Hazen R. Bean, who have been flying since 1928. They are the first two pilots to fly with Northeast.

Harry Huking, who retired as a United Air Lines captain in 1956, and Capt. William H. Kennedy, upper right, enjoy a game of golf in Hawaii. Kennedy has been flying for United since 1931.

Captain Harold P. (Hi) Little (UAL), left, tries on the helmet he wore when he began flying for United 30 years ago. Capt. Little, who has more than 40 years' experience as a pilot, is a brigadier general in the USAF reserve.

Right is Capt. Lewis I. Schreiner of Hawaiian Airlines, who recently was appointed check pilot for the company. He began his flying career in 1937.

TWA President Meets Pilots

"There I was, flat on my back," Andy Androus, Chairman of TWA Council No. 3, seems to be explaining to guests at Kansas City pilot party. The guests are (left to right) Charles S. Thomas, President of T.W.A.; John P. Giberson, Chairman, Braniff Council No. 45; and Leo F. Cullen, Braniff Regional Chief Pilot.

(Kansas City Star Photo)

By W. W. Wallace
News Letter Chairman, TWA Council No. 3

T.W.A. President Charles S. Thomas spent his first night out in the seven weeks he's had the job with the pilots of T.W.A. at a dinner dance in Kansas City, September 10.

Thomas, a former Secretary of the Navy, avoided the problems of air line management in a short after-dinner address.

Instead, he termed the air line pilot a diplomat, an executive, and a community leader.

"The piloting profession is a vital factor of the United States economy and defense," Thomas said.

Tribute was paid to the pilots' wives as the most important member of the team. Smiling toward his own wife, Thomas said, "I want you to know that my wife is boss, 100 per cent."

"Well, now we know who's running T.W.A.," joked Captain Leon Vestal, Master of Ceremonies, after Thomas stepped down.

Captain Vestal introduced the other Management guests who were: Fred Austin, System Director of Operations Personnel, T.W.A.; Floyd Hall, System General Manager of Flight Operations, T.W.A.; Ray Rowe, Director of Training for T.W.A.; R. B. Mueller, System Director of Flying, T.W.A.; U. J. Kampsen, Regional Director of Flight Operations, T.W.A.

The party was jointly sponsored by T.W.A. Council No. 3, and Braniff Council No. 45. Present from Braniff's Management was Leo F. Cullen, Regional Chief Pilot, and Bob Harris, Assistant Chief Pilot, both of Kansas City.

Pat Boling . . .

(Continued From Page 16)

ion Livingston Boling became "Pat" Boling during his grade school days "because all agreed with me that I had to do something about that name."

At home now in Palo Alto, Calif., with his wife, Joyce Cacy Boling, a 9-year-old son, Kevin, a 4-year-old daughter, Kerry, and a 2-year-old daughter, Jillian—"Pat" Boling has several hobbies. Dry-fly fishing with his family, skiing with his wife and son, the constant study of maps, and aviation.

"In preparation for this flight," he comments, "I must have examined a hundred different maps and drawn a thousand projected courses."

After concentrating on mathematics through his courses at Los Angeles City College and the University of Southern California, "Pat" Boling's great desire to be a pilot paid off when the U. S. Navy soloed him in 1939.

Today he's a United Air Lines Captain flying the famed United Air Line DC-6 and DC-7 Mainliner Flights eastward out of San Francisco to Salt Lake City, Denver, Chicago, and New York. In his twenty years, he's flown the Pacific Ocean overwater routes on many types of military and commercial missions.

He impresses one as a man with a purpose. Admittedly not a publicity-seeker, Boling's quiet manner and mature experience mark him as an aviation enthusiast who wants only to help demonstrate the peace power of airplanes.

Misuse Of Statistics

Sandy Kleiner, assistant personnel director at Chemical Corn Exchange Bank, New York, sends along the following to point up one of the many misuses of statistics making the rounds these days.

The population of this country is 160 million, but there are sixty-two million over sixty-two years of age, leaving ninety-eight million to do the work. People under twenty-one total fifty-four million, which leaves forty-four million to do the work. Then there are twenty-one million who are employed by the government and that leaves twenty-three million to do the work. Ten million are in the Armed Forces, leaving thirteen million to do the work. Deduct 12,800,000 housewives, who actually do nothing but housework, and that leaves 200,000 to do the work. There are 126,000 in the hospitals, insane asylums, and the like, and that leaves seventy-four thousand people.

But sixty-two thousand of those are derelicts or others who will not work, so that leaves twelve thousand to do the work.

It may interest you to know that there are 11,988 people in jail, so that leaves just two people to do all the work. And that is you and me, and brother, I'm getting tired of doing everything myself.

A Case:

For Vibration Indicators

By C. C. Spencer
Vice-President, ALPA Region I

For years is has been mandatory for the pilot to have accurate and continuous indication of the status of the mass of moving parts that make up his airplane and their relation to the safe conduct of his flight.

Propellers, crankshafts, turbines and other revolving parts in reciprocating engines and now with the advent of turbine power, the compressors, rotors and their related accessories, all contribute to the vibration problem.

Take for example the propeller of a DC-7. This piece of metal when fashioned into blades of proper design and with the necessary accessories weighs about 800 pounds. It absorbs and transmits into propulsive thrust the power generated by the engine. The mass inertia of this propeller at cruising speed equals several tons.

A small nick in a blade or slight misalignment is dampened out by the shock mounts and is considered acceptable. But these nicks and/or misalignments may be the forerunner of more serious trouble.

Balance A Must

In transmitting this energy into thrust the propeller must be statically and aerodynamically balanced for maximum efficiency. The shock mounts that are smoothing out the slight rough spots may be lulling you into a false sense of security. That nick or misalignment can become a lost blade or worse if not detected in time.

It has been stated by competent authority that the progression of a fault or flaw into a crack or potential failure may take several hours. The early unbalance again is covered up by shock mounts.

However, there is available today instrumentation which will give the pilot continuous and adequate information on the problem. An analysis of accidents over the past ten years of gross propeller damage or failure has brought forth this statement:

"Of the total cases analyzed (17), 14 could probably have been prevented. Four aircraft were lost together with the lives of 84 passengers and crew." Of the other three, one possibly could have been prevented, the other two probably not. The damage to aircraft and property alone runs into millions of dollars.

Turbines Revolve Faster

Let's take now the turbine powered airplane. Again we have a mass of metal revolving at high speed, (up to 14,000 RPM). In this case we have further complicated the problem by adding considerable heat to the blades.

An additional hazard for these blades is the inadvertant ingestion of foreign objects into the intake with subsequent damage. The loss of one or two blades is not considered abnormal nor dangerous to the operation of the engine and here again the shock mounting covers up the problem. However, the loss of these two or three blades or buckets sets up an unbalance which creates vibration and which eventually will lead to serious trouble if not detected in time. Again instrumentation is available to give the pilot an indication of the problem.

Power Recovery Turbine

Another source of trouble and of urgent need of solution in my opinion is the power recovery turbine on some of our present engines. This ingenious device which has greatly improved the performance of some of our airplanes has also added a source of potential hazard. Turning as it does at approximately 16,000 RPM at cruise and 19,000 RPM at take off and with a critical cooling problem, the number of

(Continued On Page 24)

Instrumentation Is Available For Both Propeller Driven And Turbine Planes; Early Detection Of Vibration Prevents Serious Troubles Later

Digest of News and Views in Aviation

Quesada Chosen To Head New Federal Aviation Agency

FAA Analysis

A complete analysis of the new Federal Aviation Act, which replaces the Civil Aeronautics Act, is being prepared by the Association staff and will appear in an early issue of The Air Line Pilot. The article will deal with the philosophies and concept behind the FAA, how it is set up to achieve these, and what effect it will have on air line pilots.

AS had been generally expected in government and aviation circles, the new Federal Aviation Agency will be headed up by General Elwood R. (Pete) Quesada, presently chief of the Airways Modernization Board.

General Quesada's appointment was announced by President Eisenhower on September 30.

The agency, set up by law at the last session of Congress, implements a single agency concept that will centralize federal regulation of the nation's civilian and military air traffic and will have authority to make air safety rules.

Ike's Assistant For Air

Quesada, 54, who has been Mr. Eisenhower's $20,000 a year special assistant on aviation since June, 1957, was given a recess appointment to the $21,500 a year job with FAA. His name will be submitted for Senate confirmation when Congress reconvenes in January.

The President said in a statement that Quesada is resigning his commission as a retired air force lieutenant general to take the FAA post, because Congress in setting up the agency specified that the administration must be civilian.

Mr. Eisenhower said, however, that he hopes Congress will vote special legislation next year to restore Quesada's air force retired status, even though he is serving as chief of the FAA. The President said it is not "logical or desirable" to have Quesada sacrifice his air force benefits in order to serve the nation in this new civilian job.

Directed Atomic Tests

Quesada enlisted in the Army Air Corps in 1924 and was graduated from flying school a year later as a second lieutenant. In World War II, as a brigadier general he commanded the 12th fighter command in North Africa, and the 9th tactical air command in France.

E. R. Quesada

Before retiring to enter private industry in 1951, Quesada directed atomic tests at the Eniwetok proving grounds in the Pacific.

He was vice president of the Lockheed Aircraft corporation in charge of missiles systems before taking the White House post last year.

New Federal Aid To Airports Bill To Be Introduced

PRESIDENT EISENHOWER'S veto of the Federal-Aid-To-Airports bill, which was considered companion legislation implementing the new Civil Aviation Act, has aroused universal protest from Congress, state and municipal authorities, industry and civil aviation representatives in general.

At present, widespread campaigns are underway to reintroduce similar legislation early in the next session of Congress which convenes January 1, 1959.

The President's action left the continuance of the federal aid program in doubt for possibly another year and in addition cut off all prospects of an increase in federal allocations for the current fiscal year. The bill would have amended the Federal Airport Act to increase the present $63 million in annual federal aid to $100 million annually and extend the program through the fiscal year 1963. The present program expires at the end of the 1959 fiscal year.

President's Reasons

In disapproving the measure, Eisenhower said he was convinced "that the time has come for the federal government to begin an orderly withdrawal from the airport grant program.

"Aviation generally has achieved a state of maturity in which the users should be expected to pay an increasing share of airport costs," he said. "No community will be hurt by the withholding of approval of this legislation."

Industry and municipal and state aviation groups, however, pointed out that important lead time was lost and many a long range program jeopardized by the President's veto of the bill. Even more critical, in the opinion of others, the economic and safety problems will be compounded as the result of the veto.

ALPA fully endorsed the legislation which passed both houses of congress by overwhelming majorities. Representatives of the Association appeared before both Senate and House committees to point out that airports today are rapidly becoming the bottleneck in the progress of the jet age.

ALPA Disappointed

After the veto, ALPA President Sayen on behalf of the Association expressed "extreme," disappointment in the President's action and said: "Probably the most urgent safety and economic problem in commercial aviation today and for the immediate future will be adequate airport facilities. Without such facilities, the millions be-

ing spent for airways improvement will be wasted. We strongly urged approval of the legislation."

Senator A. S. (Mike) Monroney, sponsor of the bill and leader in the fight for its passage called the veto "a body blow to air safety." He said:

"Not only does this action endanger a safe transition to the jet air age, it also jeopardizes the investment of more than $2 billion in the advanced types of airplanes already on order by commercial air lines . . . The bill would have permitted the modernization of our obsolete national airport system to meet the safety requirements of today and to provide for tomorrow's jet transport system.

"The President urged and the Congress provided him with a modern aviation agency set-up through the passage of the Federal Aviation Act. It will be of little use to provide for safer airspace and air traffic regulations if the planes must land on fields too short or too poorly constructed to handle them on the ground. Our safety problem includes adequate ground facilities the same as it includes safe traffic control in the air. Air traffic congestion is as great and as threatening on the ground as it is in the air and nearly every major airport today is operating at the very limit of its capacity."

Predicts Quick Action

Later Senator Monroney said he would reintroduce the Federal Aid to Airports bill when the new Congress convenes and predicted it would be passed within 10 days to two weeks.

The bill he will propose, Senator Monroney said, will carry the original $100 million a year in matching funds and in addition will provide $75 million in emergency funds to speed runway improvement in preparation for jet operations.

"We have lost six months of valuable time while the situation at our nation's leading airports becomes more dangerous each day," the Senator added.

The Conference of Mayors of the United States has called for speedy reenactment of the legislation. New York Mayor Robert F. Wagner warned there would be a serious delay in airport development unless the federal aid program was revived. He said:

"There is no question but that local communities simply do not have access to the revenues needed to carry on construction of a national system of airports," he said. "If there is to be such a system in this jet age, the federal government must accept its responsibility to help finance it."

Congressman John A. Blatnick, who was chairman of the legal and monetary subcommittee of the House Government Operations Committee which conducted hearings into the government's role in aviation, said he would call on Congressional leaders to reintroduce the vetoed legislation immediately in the next Congress.

Blatnick noted that "the action of the President further retards planning of local communities for airport construction at a time when federal financing of air navigation and air traffic control facilities is finally progressing to a point it should have reached five years ago."

The Congressman also took issue with the Administration's contention that airports are or are becoming self-sufficient. Most airports cannot even afford fire-fighting equipment, he said.

Crew Complement Attracts World Wide Attention

With the imminent advent of jet transportation on any scale which can be considered global, the subject of crew complement for these aircraft is arousing world-wide interest.

At the 13th Conference of the International Federation of Air Line Pilots Associations in Bogota, Colombia, a resolution was unanimously adopted calling for a third pilot on turbo-prop and pure jet aircraft of 80,000 pounds or more gross weight.

Since then clearly defined positions have begun to emerge.

Indicative of this is an article in the most recent issue of *Indian Skyways* which calls it "a problem that has to be settled, preferably before the close of 1958."

"For some considerable time," the magazine stated, "the qualifications of the flight deck crew comprising the Commander of the aircraft, the second pilot and the flight engineer, have been under consideration and it seems that with the introduction of the big jet airliners final decisions will have to be taken.

"ALPA," the article continues, "defines the problem as follows:

"It is not whether there should be

NEWS DIGEST

a third crew member on jet aircraft. The need for a third crew member has been recognized on present aircraft and will continue on future aircraft. Since 1948, regulations of the Federal Civil Aeronautics Board have explicitly required that aircraft over 80,000 pounds carry a third crew member. Unfortunately, the regulations do not clearly specify the qualifications of such crew members and wide latitude has been exercised by air line management in selection and training. Because of this two concepts have emerged.

Opposite Concepts

"These concepts are in direct opposition to each other. One adheres to the principle of a fully-qualified flight crew, capable of performing all flight duties. The other adheres to the specialist concept which attempts to 'specialize,' training for economy or expediency. The question: Can aircraft be operated on 'fail safe,' principles with anything less than a fully-qualified crew? Or conversely: Can safety be served by a narrow specialist concept which cannot be adapted to technological advances?

"Like most other things in aviation the functions surrounding the third crew member have changed radically. Originally the majority of air line aircraft were flown by the pilot alone and it was his responsibility to look after any minor maintenance jobs required along the route. He was able to procure such assistance as might exist, few regulations were in force which left the pilot free to make his own decisions and to utilize local mechanical skill. As aircraft became larger and were fitted with two engines it became worthwhile to carry an engineer alongside the pilot, so that in the event of mechanical trouble a skilled technician was at hand who understood the particular complications of the aircraft and its engines.

"At that time these flight engineers performed no duties in the air as all functions connected with handling the aircraft or the engines were the direct responsibility of the pilot. No pilots would have permitted the flight engineer to open up throttles on take-off, such an idea would never have entered anybody's head in those days.

"The next step was the introduction of the copilot who displaced the flight engineer from his close association

(Continued On Next Page)

NEWS DIGEST

alongside the Captain of the aircraft. The third seat, or engineer's station was introduced. The aircraft had become more complicated and it was necessary to simplify the pilot's duties. This was done by giving the flight engineer a set of instruments relating to the operation of power plants, he maintained a record of each engine along with the consumption of fuel which he controlled, and such other items of technical interest. With modern aircraft the flight engineer actually performs the duties of opening up engines and ensuring that the correct pressures and revolutions are maintained, leaving the pilot free to handle the aircraft.

Conclusion

"But this act of laying on the power is virtually part of the pilot's duty so it obviously requires handling by an individual who understands and appreciates all the functions of piloting, which leads us to the conclusion that the present day aircrew for big aircraft should be three pilots.

"The old usages of the flight engineer to carry out maintenance at stops along the route are no longer part of the duties of a flight engineer, as at each airport operators maintain their own technical personnel or they contract with some local engineering organization to perform all the necessary maintenance duties that may be required.

"It could be argued that the copilot should perform the duties of the flight engineer thus eliminating one member of the aircrew, but this does not fit in with the operation of modern aircraft flying fast and requiring very accurate navigation. It must also be remembered that aircraft duration has now reached lengths which definitely demand resting periods from actual control, therefore, the flying duties involved in an eight or ten hour flight must be shared between the Commander and his copilot.

NEW ADDRESS??

To Be Certain Of Receiving Your Issue Of ***The Air Line Pilot*** Magazine On Schedule, Make Sure We Have Your Current Address.

THE AIR LINE PILOT
55th and Cicero
Chicago 38, Ill.

Congressional Committee Report Raps Government Aviation Role

The Congressional Committee On Government Operations, in a report on the "Federal Role In Aviation, 1958," declared "a lack of systems approach has been a serious deficiency in the government's solution of aviation problems and in aviation planning."

Many of the views of the committee coincided with ALPA concepts of the national aviation program today, and reflected testimony of ALPA representatives before Congressional committees.

"The building of large and heavier aircraft requires an air navigation system capable of handling their flight, air and ground communications to support them in flight and on the ground and airports to accept them," the report raid.

"If any of these elements break down, the others are immediately involved. In addition, of course, personnel is needed to man each of these elements."

(This report preceded the veto by President Eisenhower of the new Federal Airport Aid program legislation which was passed by both houses.)

Require Joint Action

"There are also other aspects of the systems approach," the report continued. "Thus, preemption of airspace affects the air lines in their route planning and economy of operation. Airports require joint action by the CAA and local authorities with respect to their planning, location, construction, alteration and future requirements.

"The systems approach requires an interdependence of operations and plans for all for all facets of aviation."

High points of the committee's recommendations were:

"1. Acceleration of study to segregate military jets and civil airplanes. This action should receive highest priority.

"2. Revision of cockpit visibility standards. The 'see and be seen,' principle must be continued because of the inability of the CAA to effect complete positive control of all aircraft until needed equipment is obtained and operating personnel required is hired and trained. Concentrated effort in this matter is required without delay.

"3. Immediate reevaluation of restricted areas of airspace recommended. The inability to plan domestic jet routes because of the existence of current restricted airspace is a compelling reason why an immediate reevaluation should be considered.

Need Closer Co-ordination

"4. New vigor, better 'pipeline,' to airport operators in airport planning. Lack of communication between CAA and airport operators despite apparent continued efforts of the latter is an unfortunate void in an area where communication is so necessary. This is a glaring weakness in the CAA operation. Overcoming this weakness seems to be merely a procedural matter and should be accomplished at once.

"5. Promulgation of revision of runway requirements. Airport operators have not been kept informed of airport requirements for acceptance of jet planes. There was testimony that air lines and manufacturers provided no real assistance in this respect. With commercial jet flights in possibly two months, the CAA is only now circulating only a draft of revisions to runway requirements.

"6. Resolution of administrative matters. The delay in agreement between the Civil Service Commission and the CAA on job standards for controllers which has been pending since 1953, is an example of poor Government administration. In 1956, we heard that a solution was to be realized shortly. Two years later, the subcommittee heard the same hope repeated. We urge prompt correction of these problems."

Airborne Alaskans

"It is estimated that 727 out of every 1,000 people in Alaska fly each year, compared with about 25 in every 1,000 in this country," says Charles F. Willis, Jr., president of Alaska Airlines, Inc., in an interview with American Investor magazine.

Within the Territory Alaska Airlines holds permanent certificates covering 4,356 miles of feeder branches that fan out into the famous Alaska bush country. Alaska's population today, 210,000, is nearly three times the 1940 figure of 72,000 and more than 50 per cent above the 1950 census figure of 137,000.

New Bomb Scare Is Reminder

Another air line bomb scare has again emphasized the need for severer penalties to dissuade perpetrators of these vicious and dangerous hoaxes from pursuing their grim and dangerous practical jokes.

The latest such scare occurred on United Air Lines in Chicago September 20. It was caused by an airport "limo" driver who said he reported a bomb concealed aboard one of UAL's planes as "a practical joke."

As a result, the hoaxer faces a maximum penalty of a year in prison or a $1,000 fine, or both. The statute providing this penalty was passed in 1956 following the conviction and execution in the gas chamber of John Gilbert Graham who planted a real bomb aboard a plane that killed his mother and 14 other passengers. Most people didn't think this was a sufficient deterrent and a continuation of these incidents seems to bear them out. A bill was introduced in the last Congress to raise the penalty to $5,000. It passed the Senate, but not the House. Air line pilots have pressed for this stiffer penalty in order to eliminate a safety hazard—the possible necessity for an emergency action caused by such reports that could result in an accident or incident.

The Consequences

In the September 20 incident, one plane was forced to make an unscheduled landing at Moline and five others held on the ground at Midway for a thorough search.

These were the consequences, exceeding by far the relatively lenient penalty now provided:

- It caused delay and inconvenience for 200 passengers, many missing connections further on.
- It created extreme anxiety among those who waited for these people at journey's end.
- It caused considerable financial loss to passengers, to the air line which estimated its loss at thousands of dollars, to the city of Chicago whose police and fire units responded to the call and to the Federal Bureau of Investigation which had a team of agents tied up all one night and into the next day.

There is, however, one bright spot: the incident has served to renew interest in steps to raise the penalty to a point where it could be a really expensive "practical joke."

NEWS DIGEST

Prayer For a Pilot . . .

Lord of Sea and Earth and Air,
Listen to the Pilot's Prayer—
Send him wind that's steady, strong,
Grant that his engine sings the song
Of flawless tone by which he knows
It shall not fail him where he goes;
Landing, gliding, in curve, half-roll
Grant him, O Lord, full control.
That he may learn in heights of Heaven,
The rapture altitude has given
That he shall know the joy they feel
Who ride Thy realms in birds of steel.

—Cecil Roberts

(Cecil Roberts is a little girl, says Capt. R. M. Bird NWA, Seattle, whom he met through friends in Dodge City, Kan. He forwarded the poem to The Air Line Pilot.)

Convention Announcement

The Fifteenth Biennial Convention of The Air Line Pilots Association International (AFL-CIO), will be held November 3-7, 1958, inclusive, at the Carillon Hotel, 68th Street and Ocean Front, Miami Beach, Florida. The Credentials Committee will accept registrations commencing at 1 p. m., Monday, November 3, and the first session will convene at 7:30 p. m., the same date.

The Air Line Pilots Association, Intl.

Doggone Dog Mystery Solved

When an air line goes to the dogs, it's usually kept pretty secret from the stockholders, but North Central reports that its air line went to the dogs—literally—at least for a couple of days.

Minneapolis-St. Paul maintenance foremen couldn't figure out why about a half-dozen DC-3's from the Grand Forks-Omaha segment came back with tiny holes in the elevator fabric. The damage wasn't serious, merely irritating because the holes had to be patched and doped.

Mystery Deepens

The mystery deepened until one day Capt. Abe Lincoln, MSP pilot, landed his flight in Norfolk, Nebr., rounded the turn from the runway to the taxiway and saw a large dog leap from the brush and sink his teeth into the tail control surface.

At last report, the dog had been removed from the area and routine operation was again the order of the day.

Vibration Indicators . . .

(Continued From Page 19)

failures of the wheel and blades is of serious concern.

Early certification tests required an armor plate surrounding the wheel to protect against flying parts; however, recent production models have done away with this protection. The wheel is now tested for overspeed, then holes are drilled at intervals so that the wheel disentegrates above a certain speed. The disturbing thing here is where do the pieces go. Would it not be better to detect this impending failure before it happens?

The detection of unbalance and its induced vibration is not a new field. As stated before, equipment for detection and instrumentation for display of the problem has been developed and used successfully for some time.

Need Action

As with many safety problems, it is

STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233) SHOWING THE OWNERSHIP, MANAGEMENT, AND CIRCULATION OF

The Air Line Pilot, published monthly at Chicago, Illinois, for Oct. 1, 1958.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Air Line Pilots Association, Intl., 55th St. and Cicero Ave.; Editor Ed Modes, 55th St. and Cicero Ave.; Managing editor, None; Business manager, None.

2. The owner is: Air Line Pilots Association, 55th St. and Cicero Ave.; Clarence N. Sayen, President; Grant LeRoux, First Vice President; Robert L. Tuxbury, Secretary; D. J. Smith, Treasurer; all of 55th St. and Cicero Ave.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: None.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

(Signed) ED MODES, Editor.

Sworn to and subscribed before me this 23rd day of September, 1958.

(Seal) HELEN CHIPIANITIS

(My commission expires Jan. 21, 1962.)

...to you and you
...from you...you...and you

No Christmas gift is more widespread or important in effect than Christmas Seals. Given by most Americans, they help make possible the greatest gift of all—health, life itself.

Since 1907, the Seals have financed vast anti-tuberculosis activities that have saved more than eight million lives! Yet there will still be about 90,000 new TB cases this year.

So continue to give the gift that saves lives... use Christmas Seals on every letter, card, and package... and be sure to send in your contribution today. ***Buy and use Christmas Seals.***

This space contributed to the National Tuberculosis Association and its affiliates by

The Air Line Pilots Assn, Intl., (AFL-CIO)

You TOO Can Be Among These Advertisers!

Address Your Message To An Above-Average Income Market!

A 2" Space Will Cost You Only $29.00

With Ample Discounts For Multiple Insertions

Other Rates And Information Upon Request From The Air Line Pilot, 55th and Cicero Ave., Chicago 38, Ill.

often necessary to force the issue to get something done. Recently several publications have carried articles concerning this problem and it is submitted that time is of the essence in bringing forth a successful conclusion to the matter. Safety is the watchword in our business. However, the completely safe airplane stays in the hanger. *Safety then is the systematic elimination of areas of hazard.* The Air Line Pilots Association has been ever in the forefront in safety matters and has successfully implemented countless safety projects.

"Progress in the air requires successive phasing-in of new transport methods which can never be proven except in the crucible of daily use. This progress of scientific extension means that we must routinely use the new methods even when they may not yet be regarded as 'finally proven.' But in this situation experience of past events can be useful. Possibly the ability to predict new circumstances and act in anticipation is one of the reasons why safety has accompanied progress in the air transport industry." (Wakeland)

Let's add another mark to *Progress.*

Runaway Props...

(Continued From Page 5)

▶ Slow the aircraft down to just about stall speed.

▶ Fly at a low altitude where the density of the air is greater and the true airspeed can thereby be decreased.

▶ Don't freeze the engine if the runaway propeller is the only consideration. Drag in most cases will be greater with the engine frozen and the propeller stopped than with the propeller windmilling. This applies in all cases to propellers with low pitch mechanical stops when the blade angle is at the limit or above. Of course, if other malfunctions exist, such as severe vibration or loss of oil, controlled freezing may be dictated. If so, freeze at the slowest possible airspeed and, if altitude and all other factors permit, consider feathering the adjacent propeller until freezing has been accomplished. (One engineer told us that if 6 inches is lost off one blade of an adjacent engine's propeller, that engine will vibrate itself completely off the wing before it can be shut down.)

▶ Don't attempt intermittent freezing, but close the firewall shut off valve and leave it closed. Freezing will be accomplished in the minimum amount of time and there will not be the tendency for bearings to be washed away a little at a time as could be the case were intermittent freezing attempted. Other suggestions as to freezing are to move all personnel out of the prop line, depressurize, and as RPM's decrease keep trying to feather. The feathering motor may be able to overcome centrifugal turning moment working on the blade as the RPM decreases. It has been done just this way several times.

▶ Consider dumping fuel and/or jettisoning cargo.

▶ Remember the advantages of ground effect, as a last resort. Major Tyson, flying his C-97 approximately 100 feet above the water, realized a definite gain in airspeed and was thereby able to reduce power slightly on the two good engines and stretch his fuel to enable him to reach Hilo. In cases such as this, too, fuel becomes a consideration in what action should be taken to cope with the emergency. If the power required to counteract the drag of a windmilling propeller is such that fuel will be exhausted before a suitable landing field can be reached, freezing, in hopes that the prop will come off or uncouple from the engine and thereby reduce drag, may be the best choice.

▶ Completely uncontrollable, high speed runaways are not everyday occurrences. Few pilots have experienced such major emergencies. They should not be misconstrued with prop overspeeds in which the procedure is: Reduce throttle; try decreasing RPM manually; if ineffective, try reducing RPM with intermittent feathering and if it doesn't hold, feather; if the prop will not feather, reduce airspeed by retarding all throttles and pulling the nose up.

Conclusion

The rules set out in this article represent the general procedures for coping with the uncontrollable, runaway propeller. They have been evolved from questioning of airframe and propeller manufacturers, aviation specialists in the field, and are based on flight and engineering test data, together with actual experiences. These general rules are thought to be the

FLIGHT BAGS

Portfolio case combination. Top-grain cowhide, rigid sides. Opens from top. Black, Ginger, Brown, Suntan. $37.00 (Style 150) With detachable portfolio $39.00 (Style 150S) tax incl. Case 18 x 8 x 14, portfolio 18 x 2 x 12.

Check or money order (add 75¢ postage).

Write for Catalog AP-10

ALLIED BRIEF CASE CO.
186 FIFTH AVENUE NEW YORK 10

FOR SALE

1 Douglas B-26-B-56-DL
1 Douglas B-26-C-40-DL

Military Models, Low Airframe and Engine Time, New Tires and Tubes, Batteries, Plugs and New Fabric Elevators and Ailerons.

Excellent Condition—Ready to Fly.

CONTACT

B. J. Waddell, *Chief Pilot*
A. H. Beidel, *Purchasing Agent*

Potash Company of America
P.O. Box 31
Carlsbad, New Mexico
Phone TUxedo 5-2111

SUPPLIERS OF QUALITY UNIFORMS

Currently manufacturing uniforms for leading Domestic and International Airlines
DELTA DEALERS ARE LOCATED IN PRINCIPAL CITIES AND SUBURBAN AREAS ADJACENT TO AIRPORTS
Write us for nearest Dealer in your locality
DELTA UNIFORMS
3 East 28 Street, New York 16, N. Y. MU 9-6360

Is Your Estate Planned?

If you should not live thru today would your family receive the benefits of a *planned* estate, or just a jumble of life insurance policies and "general" assets?

We offer our facilities and those of the Massachusetts Mutual Life Insurance Company to help you leave your family a *Planned Estate.*

Ask About Our Service

SCHIPPLOCK SALVESEN

ESTATE PLANNING & GENERAL INSURANCE
CHICAGO MIDWAY AIRPORT
POrtsmouth 7-6838 4848 W. 63rd St., Chicago 38, Ill.

best available at this date. It should be remembered however, that each emergency of this kind is an individual emergency that may require deviation from these generally recommended procedures. The decision as to the best way to handle each individual emergency must, therefore, lie with the crew involved. It is felt that knowledge of runaway characteristics and aerodynamic considerations as presented in this article will better enable the crew to analyze and handle the emergency.

Frank South **LUGGAGE**

FLIGHT KIT BAGS

MAKE WONDERFUL GIFTS

Write for complete information for best buys on Kit Bags

AT 4-8383 **FRANK SOUTH** *No C.O.D.'s*

P. O. BOX 13366, FORT WORTH, TEXAS, DEPT. P.

pilots employment associates

Teterboro Airport

Teterboro 5, New Jersey

FRYE'S FAMOUS BOOTS

Streamlined Beauty

FINE QUALITY

A Prized Possession

NOW BY MAIL

Postpaid

Or Stop In Between Flights And Get Them

WELLINGTON **$16.95**

JODHPUR **$17.95**

Precision built, light weight, wonderfully comfortable. Calf vamps, kid tops, fully lined, leather soles, rubber heels. **BROWN** or **BLACK.** Men's sizes 6-12, ABCDE, from stock. Other sizes 6-14, AAA-EEEE, made to order only $3.00 more. Satisfaction guaranteed. **ORDER NOW.** Enclose check or money order.

WRITE FOR FREE CATALOG

TODD'S

Dept. 10 AP, 209 S. State St.

Chicago 4, Ill. Phone: WA 2-7928

Future Outlook . . .

(Continued From Page 10)

premiums for a plan that pays $500 per month ($12,000 maximum benefit) for two years only after a 60-day waiting period:

Age	Annual Premiums in Least Hazardous Occupation
30	$106.50
40	125.00
50	175.00
55	217.00

In the most hazardous occupations they are willing to insure, they restrict the maximum to $200 per month. These are the annual premiums for the 60-day waiting period, two-year benefit. (Keep in mind that they are not even willing to offer this much to pilots.)

Age	Annual Premium
30	$59.00
40	65.00
50	80.60
55	94.60

Possible Limitations

Your present contract provides that even if a pilot establishes a claim at age 59, he can receive benefits beyond the retirement age of 60. This can ultimately cause a very heavy claim experience to the plan. Consideration should possibly be given to the proposition of stopping the benefits at age 60, just as the ALPA Mutual Aid plan does.

Another factor which would help in cost control would be to make the participation as close to 100 per cent as possible.

Then, too, a stepped-up rate or a reduced benefit at the higher ages might be investigated, but undoubtedly this would be unpopular with an important segment of ALPA pilots. The younger pilots eventually become the older pilots, and it's not unfair to keep the plan on the present level premium basis. All other group insurance is handled on this basis.

The Companies

The insurance company on this risk is the Eagle Star Insurance Company, Ltd., of England. The adjustment firm of Toplis & Harding, Wagner & Glidden, which investigates and supervises the claim payments, is one of the largest and best known in the world. The London firm, which supervises this contract in England, J. H. Minet & Co., Ltd., also handles the claims for

IFR HOOD

First in Safety! First in Comfort!

First in Pilot's Choice

The modern method of simulated instrument flight for training and maintaining proficiency.

$15.00 at your Airport or

FRANCIS AVIATION

Box 299 Lansing, Michigan

Last three years of special low prices and full service have brought me over 400 happy ALPA customers from Eastern, National, Delta, Northeast, Pan American, Riddle, Braniff, etc., plus officers of ALPA and Airline Executives.

ASK YOUR FELLOW PILOTS ABOUT MY SERVICES

FURNITURE

CARPET

DRAPES

SHIPMENTS ANYWHERE

GEORGE H. BURCH

Moore Furn., Bldg.

191 N.E. 40 ST.

MIAMI 37, FLA.

Miniature WHIRLWIND ENGINE Cuff Links and Tie Bar

CUFF LINKS AND TIE BAR SET **$6.50**

Propeller Tie Bar $3.50

Radial Engine Tie Pin $3.50

Tax and Postage Included *Satisfaction Guaranteed*

All Are Precision Molded Replicas

NON-TARNISHING RHODIUM (silver) Finish

Varsity Shop Specialties Ship Post Paid

(38 years continuous business)

6321 Hillcrest Avenue

Dallas 5, Texas $_____

NAME _____

ADDRESS _____

CITY _____ ZONE ____ STATE _____

(Enclosed Cash ____ Check ____ Money Order ____)

50c extra for C.O.D.

BOAC and Canadian ALPA "Loss of License," contracts as well as a great deal of this business placed throughout the world.

There are two other insurance organizations in the U.S.A., which are connected with your "Loss of License," contract. First is Bowes & Company of Chicago. This is the Lloyd's contact (through J. H. Minet & Co., Ltd.) in this country—the wholesaler, so to speak. Bowes & Company deals with brokers throughout the U.S.A. in placing risks of all kinds in the London market.

Lastly, there is the broker, Johnston & Company, Inc., of Chicago. This is the organization which has the day-to-day contact with ALPA. They were responsible in the first place for bringing ALPA together with Bowes & Company, Inc., Minet in London, and the Eagle Star. It is their responsibility to keep ALPA informed on all matters concerning claims, accounting, new coverages, etc. They prepare a very detailed report every month so that your officers are completely informed at all times about the significant facts concerning this contract.

The writer is in hope that this article will give you a better understanding of your "Loss of License," insurance program and its usefulness to you as a part of your security program.

* CAREFREE *

SAILING VACATION

55 FT. KETCH TAVANA
60 FT. YAWL RED HEAD

Available for Charter
with Captain and Cook

BAHAMAS

This Winter

Write "YACHTS", 95 Hillcrest Avenue
Staten Island 8, N. Y. for Brochures
and available dates.

Raceway

NEAT . . . HANDSOME
. . . INCREDIBLY
COMFORTABLE!

HYER

"Brand of Top Quality Since 1875"

Black or Tan Calf $27.50
Brown Glovetanned 25.75

See RACEWAYS at:
Bill Tannehill's The Raceway Saddlery
406 Thomas Ave., Forest Park, Ill.

. . . or WRITE for the NAME OF YOUR NEAREST DEALER:

C. H. HYER & SONS, INC.
OLATHE, KANSAS

FUTURE DOLLARS!

How can you accumulate enough of them to provide security for your family?

Are high tax rates "eating you up?"

Convert your present high earnings to a sizeable estate that will provide enough future dollars for your loved ones . . . while still enjoying a good current income from the dollars you are forced to invest for your family's protection. A new triple-feature Contract that is comparable in cost with the cost per $1,000.00 of life insurance in any top rated company. You share in the profits of the company. Phone today to have a representative call on you at your convenience. We specialize in helping air line pilots build up an estate.

SCHIPPLOCK SALVESEN

ESTATE PLANNING & GENERAL INSURANCE

CHICAGO MIDWAY AIRPORT

4818 W. 63rd St. • Chicago 38, Ill.

POrtsmouth 7-6838

Attention, Flight Personnel!

be an absentee businessman

...open a Philco-Bendix self-service laundry store

Many airline pilots, co-pilots, engineers and stewards are going into the self-service coin-operated laundry business. These new stores are made to order for absentee ownership and are hard to beat for fast returns on a small capital investment.

Here are some of the facts: A coin-operated laundry needs no attendant. Customers simply come into the store, wash and dry their clothes in metered machines and leave. Only a few hours a week are required to empty coin boxes and supervise efficient operation.

Coin stores are outstandingly successful because they offer customers up to a 65% saving over attended-type wash-and-dry service. They are convenient for busy people because they remain open 24 hours a day, seven days a week. There are no credit problems – *it's strictly a cash business.*

Act now! Send coupon below for complete data on business locations in your area and valuable help in all phases of planning, financing and promoting a coin-operated laundry store that will work for you round the calendar.

PHILCO BENDIX

COMMERCIAL LAUNDRY SALES

Philco-Bendix Commercial Laundry Equipment is brought to you by Philco Corporation

PHILCO CORPORATION
Commercial Laundry Adv. Dept. AP-3
Tioga and C Streets, Philadelphia 34, Pa.

Please send me information on Philco-Bendix Commercial Washers . . . also the name of my local distributor.

Name_____

Address_____

City_____ Zone____ State_____

Our Airline of the Month

WESTERN AIRLINES

AMERICA'S SENIOR AIRLINE

The Lockheed Electra — which will fly the routes of America's Senior Airline in Canada, the USA, and Mexico beginning in the summer of 1959.

We welcome the pilots of Western Airlines who will join our group November 1st.

This group insurance will pay a pilot $25,000. cash, tax free, if he is permanently prevented from flying for his airline for physical reasons.

The coverage is non-cancellable to age 60 for the individual pilot The coverage and conditions are not subject to change and the original policy does not need to be renewed or reissued.

$25,000.00
(CASH, TAX FREE)

AIRLINE PILOT OCCUPATIONAL DISABILITY INSURANCE *

NON-CANCELLABLE TO AGE 60

(A group plan only — ask your ALPA chairman to contact us.)

Pilot Groups Insured

- BONANZA AIR LINES
- CANADIAN PACIFIC AIRLINES
- CAPITAL AIRLINES
- DELTA AIR LINES
- EASTERN AIR LINES
- FRONTIER AIRLINES
- MACKEY AIRLINES
- NEW YORK AIRWAYS
- NORTHEAST AIRLINES
- PAN AMERICAN-GRACE AIRWAYS
- PIEDMONT AIRLINES
- SEABOARD & WESTERN AIRLINES
- SOUTHERN AIRWAYS
- TRANS-CANADA AIR LINES
- WEST COAST AIRLINES
- WESTERN AIRLINES

● UNITED STATES:
Aviation Insurance Agency, Inc.
Atlanta Airport — Atlanta, Georgia
CAPT. HARVEY W. WATT, Pres.

● CANADA:
Aviation Insurance Agency (Canada) Ltd.
P. O. Box 31, Toronto 18, Ontario
CAPT. W. M. BENSON, Exec. V. P.

If your airline is listed above and you would like to join, please write us for information.

* Copyright 1957